

ABSTRACT

A turbine assembly for a rotary sprinkler head includes a flow control valve, a turbine housing having a fluid inlet and fluid outlet ports, and a rotor mounted in the housing. The flow control valve is moveable between a closed position and a maximum open position, and is spring biased towards the closed position in which all of the fluid flowing into the sprinkler head initially flows into the turbine assembly. When the flow rate through the sprinkler head is sufficient to open the valve, a portion of the fluid flow passes through the valve to bypass the turbine assembly. As the flow rate continues to increase, the valve opens further until it reaches the maximum open position. Once the valve is opened to a predetermined point, as it opens further, up to the maximum position, the valve also increasingly throttles the fluid outlet ports up to a point short of complete blockage of the outlet ports.